

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this Application:

Listing of Claims:

1. (Original) A method of identifying a compound that modulates the ability of a glycosyltransferase to bind a substrate comprising:

combining a glycosyltransferase, a labeled substrate, and a compound, in a reaction vessel, under conditions known to be suitable for the glycosyltransferase to bind the labeled substrate,

measuring an amount of labeled substrate bound to the glycosyltransferase, and

comparing the amount to a standardized amount to identify a relative increase or decrease in substrate bound glycosyltransferase, thereby identifying a compound that modulates the ability of the glycosyltransferase to bind the substrate.

2. (Original) A method according to claim 1 wherein the glycosyltransferase is a GT-A or GT-B, NDP-glycosyltransferase.

3. (Original) A method, according to claim 2, of identifying a compound that inhibits the ability of a glycosyltransferase to bind a substrate.

4. (Original) A method according to claim 3 wherein the substrate comprises UDP, TDP or GDP.

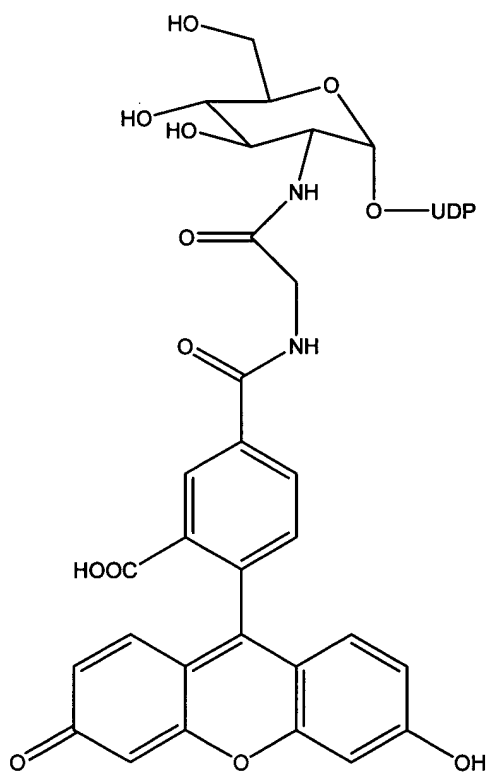
5. (Original) A method according to claim 4 wherein the substrate comprises UDP-GlcNac.

6. (Original) A method according to claim 3 wherein the glycosyltransferase is MurG.

7. (Original) A method according to claim 6 wherein the labeled substrate comprises UDP-GlcNac.

8. (Original) A method according to claim 7 wherein the labeled substrate comprises a label selected from the group consisting of (a chromophore, a fluorophore, a dye, a radioisotope and an enzyme).

9. (Original) A method according to claim 8 wherein the label is a fluorophore.
10. (Original) A method according to claim 9 wherein the fluorophore is fluorescein.
11. (Original) A method according to claim 10 wherein the labeled substrate is the UDP-GlcNAc (hexose donor) analogue:



12. Cancelled.
13. Cancelled.
14. Cancelled.
15. Cancelled.
16. Cancelled.
17. Cancelled.

18. Cancelled.
19. Cancelled.
20. Cancelled.
21. (New) A method of identifying a compound that inhibits the ability of a nucleotide-sugar glycosyltransferase to bind a substrate comprising:

performing a donor displacement assay on a target compound wherein at least one substituent on the glycosyl group of the glycosyl donor can be modified to incorporate a label without abolishing binding of the donor to the glycosyltransferase.
22. (New) The method of claim 21 wherein the donor displacement assay is based on displacement of a fluorescently labeled glycosyl donor.
23. (New) The method of claim 21 wherein the donor displacement assay is based on displacement of a ligand from the glycosyl donor binding site.